Exemption No. 7965

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of **Asia Pacific Airlines** for an exemption from §§ 25.785(j), 25.813(b), 25.857(e) and 25.1447(c)(1) of Title 14, Code of Federal Regulations	Regulatory Docket No. FAA-2002-12918

PARTIAL GRANT OF EXEMPTION

By letter dated July 8, 2002, Mr. Stephen L. Lea Vell, Director of Operations, Asia Pacific Airlines (APA), 156 Diablo Road, Suite 203, Danville, CA 94526, petitioned for an exemption from the cargo-only provisions of § 25.857(e), and the passenger requirements of §§ 25.785(j), 25.813(b) and 25.1447(c)(1) for the Boeing Model 727-200 airplanes, serial numbers 21349 and 21459, to allow carriage of 2 non-crewmembers (commonly referred to as supernumeraries).

The petitioner requests relief from the following regulations.

> Section 25.785(j), at Amendments 25-88, requires, in pertinent part, that there be a firm handhold to enable occupants to steady themselves when moving through the aisles in moderately rough air.
>
> Section 25.813(b), at Amendment 25-88, requires, in pertinent part, that each passenger emergency floor level exit equipped with an assist means have an assist space next to it.
>
> Section 25.857(e), at Amendment 25-60 requires, in pertinent part, that when a Class E cargo compartment is installed on the airplane, the airplane is used for carriage of cargo only.

Section 25.1447(c), at Amendment 25-87, requires, in pertinent part, that oxygen dispensing units must be automatically presented to the occupants before the cabin altitude exceeds 15,000 feet. The total number of dispensing units and outlets must exceed the number of seats by at least 10 percent. The extra units must be uniformly distributed throughout the cabin as practicable, and there must be two oxygen masks in each lavatory.

Related Sections of the FAR:

Section 121.583(a) contains, in pertinent part, a listing of categories of persons who may be carried aboard an airplane in part 121 service without complying with all the passenger-carrying airplane requirements of part 121.

The petitioner's supportive information is as follows:

"With this letter Asia Pacific Airlines, petitions the Administrator for an exemption from parts of the requirements of Sections 25.785(j), 25.857(e), 25.1447(c)(1) and 25.1.447(c)(3)(ii) of the Federal Aviation Regulations (FARs), to allow up to two (2) non-crewmembers, hereafter referred to as ACMs (Additional Crew Members) to occupy seats in the most forward area of the Class E compartment, hereafter referred to as the supernumerary area, of the two Boeing 727-200s it operates. The aircraft registration numbers are N-319NE and N-86425 and their respective serial numbers are 21349 and 21459. The aircraft are B-727-200s converted from passenger service to freighters by different STCs.

"In order to meet the operational requirements of cargo missions, APA is seeking approval for seating two (2) persons on the forward bulkhead of the main deck Class E compartment in the vicinity of the forward exit, L-1, (behind the flightdeck). The seats are original aircraft equipment covered by Type Certification Number A3WE dated 29 November 1967, (foldaway seats for Flight Attendants). Except for the sections from which the exemption is requested, all design criteria applicable to the carriage of passengers has been taken into consideration for the sitting area. Protection from an injury crash and penetration of smoke and noxious gases is provided in the form of a 9G crash bulkhead and a smoke-tight curtain, which isolate the main deck cargo compartment from the supernumerary area where the ACMs will be seated. The STC that covers N-319NE is, SA1798SO dated 10 May 1996, and the STC for N-86425 is ST00779SE dated 22 February 2000.

"CERTIFICATION BASIS AND AFFECTED FARs RELATED TO THE STC USED FOR CONVERSION OF N-319NE

"Section 25.785(j) Amendment 25-7225-93[sic], effective 20 August 1988.

"If the seat backs do not provide a firm handhold, there must be a handgrip or rail along each aisle to enable persons to steady themselves while using the aisles in moderately rough air.

"Section 25.813(b), Amendment 25-76, effective 3 June 1992

"Adequate space to allow crewmember(s) to assist in the evacuation of passengers must be provided as follows:

(1) The assist space must not reduce the unobstructed width of the passageway below that required for the exit.

(2) For each Type A exit, assist space must be provided at each side of the exit regardless of whether a means is required by §25.810(a).

(3) For any other type exit that is covered by Sec. 25.810(a), space must be provided at one side of the passageway.

"Section 25.857(e), Amendment 25-60 effective 19 March 1998

"Class E. A class E cargo compartment is one on airplanes used only for the carriage of cargo and in which ....

"Section 25.1447(c)(1), Amendment 25-41 effective 1 September 1977

"(1) There must be an oxygen dispensing unit connected to oxygen supply terminals immediately available to each occupant, wherever seated. If certification for operation above 30,000 feet is requested, the dispensing units providing the required oxygen flow must be automatically presented to the occupants before the cabin pressure altitude exceeds 15,000 feet and the crew must be provided with a manual means to make the dispensing units immediately available in the event of failure of the automatic system. The total number of dispensing units and outlets must exceed the number of seats by at least 10 percent. The extra units must be as uniformly distributed throughout the cabin as practicable..

"CERTIFICATION BASIS AND AFFECTED FARs RELATED TO THE STC USED FOR CONVERSION OF N-86425

"Section 25.785(j) Amendment 25-88, effective 9 December 1996

"If the seat backs do not provide a firm handhold, there must be a handgrip or rail along each aisle to enable persons to steady themselves while using the aisles in moderately rough air.

"Section 25.813(b), Amendment 25-88, effective 9 December 1996

"Adequate space to allow crewmember(s) to assist in the evacuation of passengers must be provided as follows:

(1) The assist space must not reduce the unobstructed width of the passageway below that required for the exit.

(2) For each Type A or Type B exit, assist space must be provided at each side of the exit regardless of whether a means is required by §25.801(a) to assist passengers in descending to the ground from that exit.

(3) Assist space must be provided at one side of any other type exit required by §25.810(a) to have a means to assist passengers in descending to the ground from that exit.

"Section 25.857(e), Amendment 25-60 effective 16 June 1988

"Class E. A class E cargo compartment is one on airplanes used only for the carriage of cargo and in which….

"Section 25.1447(c)(1), Amendment 25-87 effective 5 July 1996

"(1) There must be an oxygen dispensing unit connected to oxygen supply terminals immediately available to each occupant, wherever seated, and at least two oxygen dispensing units connected to oxygen terminals in each lavatory. The total number of dispensing units and outlets in the cabin must exceed the number of seats by at least 10 percent. The extra units must be as uniformly distributed through the cabin as practicable. If certification for operation above 30,000 feet is requested, the dispensing units providing the required oxygen flow must be automatically presented to the occupants before the cabin pressure altitude exceeds 15,000 feet. The crew must be provided with a manual means of making the dispensing units immediately available in the event of failure of the automatic system.

"An emergency exit is next to the foldaway seat with an escape slide, 1-Left. Supplemental oxygen is available in the form of two (2) walk-around bottles to address depressurization by failure of the Pressurization System or as required in case of a smoke warning in the main deck cargo compartment. ACMs will be instructed that oxygen masks must be donned when a chime is activated and a sign is lighted that is in their field of vision. The information sign will be activated manually. Communication with the ACMs is via the Public Address system. Other emergency equipment as required by the applicable Airworthiness Standards is provided.

"APA believes that an equivalent level of safety with the parts of the requirements from which relief is sought is achieved by design precautions and by the inclusion of instructions in the flightcrew's company Boeing-727 Airplane Flight Manual and General Operations Manual.

"EXTENT OF THE REQUIRED REGULATORY RELIEF SOUGHT

"The primary reason for this request for exemption is to permit carriage of ACMs on operations, which is the primary reason for requesting exemption from Section 25.857(e). Other Sections from which exemption is sought are subordinated to the primary reason. Exemption is sought to the following extent:

"Section 25.785(j): relief from the requirement to install a handgrip or railing.

"Section 25.813(b): relief from the requirement for an assist space next to the emergency exit.

"Section 25.857(e): relief to permit carriage of 2 (two) persons in the class E cargo compartment.

"Section 25.1447(c)(1): relief from the requirement for automatic presentation of oxygen dispensing units and the requirement for 10 percent additional oxygen dispensing units.

"ARGUMENTS FOR THE EXEMPTION

"1. From time to time APA needs support personnel on flights for safe handling of payloads during loading and offloading. It is important that APA cargo handlers are present on arrival of a flight that has perishable goods or live animals. The most efficient and surest way to assure their presence at destination airports is to transport them aboard the flight. This is due to the limited air service in the areas APA serves, Micronesia and the Western Pacific region.

"2. From time to time APA has payloads, such as live animals, hazardous materials, valuable or perishable cargo, which cannot be left unattended, even for the duration of a flight. The presence of qualified personnel for their handling is necessary. Safety and efficiency of the operation will therefore be enhanced.

"3. From time to time APA and Continental Airlines (Air Micronesia) need to have qualified maintenance personnel at various locations served. The area served by both carriers, has minimal passenger service which limits movement of personnel. Permitting maintenance personnel on flights will optimize air service for the region.

"4. The assist space adjacent to the emergency exit required by Section 25.813(b) is not necessary, as the foldaway seat clears the area when ACMs standup. Additionally ACMs will be trained to operate the door at 1-Left.

"The requirements of Section 25.1447(c)(1) and (c)(3)(ii) to have automatic presentation of oxygen dispensing units before the cabin pressure altitude exceeds 15,000 ft. are compensated by the fact that the users will be briefed on the location and use of the supplemental oxygen. With respect to the requirement of an excess of 10 (ten) percent of dispensing oxygen units; the requirement is based on two purposes—use by Flight Attendants moving along an aisle and a passenger's awkwardness to reach a mask. None of these factors apply to the configuration of the B-727s operated by APA.

"Requirements of Section 25.785(d) to have handgrips installed when seatbacks do not allow a firm handhold cannot be met because the back of the seat is built into the bulkhead that separates the cockpit from the supernumerary area. Passage in the vicinity of the seating area is lateral to the seats. All occupants will be briefed to remain seated with a seat belt fastened, as far as practicable, in order to limit moving around to a minimum. Nevertheless the supernumerary area has many places that can serve as holding devices.

"PUBLIC INTEREST SERVED

"APA is the only all airfreight carrier that serves Micronesia and the Western Pacific region. The air service it provides is vital to the area. Allowing ACMs will benefit the public in the following ways:

"1) Air service will be available for perishable cargo that needs couriers/cargo attendants.

"2) Because of the limited passenger service, monetary shipments that require couriers will have more flexible shipping options to better provide banking services to Micronesia and the Western Pacific region.

"3) Operational reliability of the aircraft used by APA and those of Continental Airlines (Air Micronesia) will be enhanced with the ability to move maintenance personnel. Critical air services that the island populations depend on—health, postal and commerce—will be enhanced.

"In the interest of the public, APA requests expedited handling of this petition. Further, APA requests that the 20-day public comment period be waived in accordance with similar practices in the past."

Notice and Public Procedure Provided

The FAA finds, for good cause, that action on this petition should not be delayed by publication and comment procedures, because a grant of exemption would not set a precedent and is very similar to exemptions which have been granted previously.

The FAA's analysis/summary is as follows:

> The petitioner has requested relief primarily from the requirements of § 25.857(e), which permit carriage of cargo only when a Class E cargo compartment is installed on the airplane. Class E cargo compartments are usually remote from the flightdeck and encompass the entire interior of the airplane. The means of controlling fires that might occur in the cargo compartment is to starve the fire of oxygen. This is accomplished by depressurizing the airplane and maintaining an altitude that will not support combustion. For this reason, only crewmembers are permitted on board such airplanes.
>
> An exit must be available on each side of the airplane for an acceptable level of safety to be provided for supernumeraries, since it is a real possibility that an exit on one side of the airplane may not be useable during an accident due to fire, extensive crash damage, or some obstruction outside of the airplane. The petitioner has proposed that supernumeraries be allowed to occupy an area forward of the Class E cargo compartment and aft of the flightdeck. The petitioner's 727-200 airplanes have only one exit, which is on the left side of the fuselage in this area. The flightdeck has a window exit on each side of the fuselage, but the flightdeck can be separated from the supernumerary seating area by a closed flightdeck door. An acceptable level of safety would be provided in terms of the exit requirements of part 25, if the flightdeck door were latched open during taxi, takeoff and landing so that supernumeraries would have access to the flightdeck window exits.
>
> However, FAA operational regulations require that the flightdeck doors of the petitioner's airplanes be closed during taxi, takeoff and landing. The petitioner has requested, by a separate petition, an exemption from these operational requirements, and that petition is being addressed in a separate response.
>
> An escape slide or inertial reels must be installed at the Type I exit in the supernumerary seating area to allow supernumeraries to descend to the ground during an emergency evacuation. Occupants must be trained in the use of the assist means.

The FAA has previously granted exemptions for carriage of persons in addition to crew on similar aircraft provided that certain conditions are met. The conditions (or limitations) established for those previous exemptions also apply in this case. The FAA has notified the petitioner that limitations which were not proposed in the petition are needed to provide an acceptable level of safety for supernumeraries in the Class E cargo compartment.

In all cases, there must be suitable means of preventing smoke penetration into areas that are occupied. The APA design meets this requirement by providing a barrier. However, the petitioner has indicated that configurations may be approved that will allow supernumeraries to enter the Class E cargo compartment and hence open the smoke barrier. In order to provide an appropriate level of safety, a placard must indicate that the smoke barrier must be secured (i.e., the door or curtain must be closed) when occupants are not in the Class E cargo compartment, and it must be located in a conspicuous place either on or next to the smoke barrier. If access into the Class E compartment is allowed, a flightcrew operated aural or visual annunciation which would be recognized in the Class E cargo compartment must be installed to indicate during a fire in the Class E compartment that persons must return to their seats and secure the smoke barrier (i.e., close the door or curtain). Appropriate procedures/limitations would need to be established to ensure that the flightcrew signals the supernumeraries to return to their seats and secure the smoke barrier at the onset of a fire. The pre-flight briefing would need to explain this annunciation to the supernumeraries.

Due to the way the fire is controlled, it is necessary to limit persons on board to those that have been found physically fit by the operator and have been briefed on the use of emergency equipment. This limitation on the occupants is consistent with previous approvals and will be included in this approval.

The left door 1 passenger exit is a Type I exit. It is a floor level, rectangular exit which is 34 inches wide by 72 inches high. The FAA considers that an assist space is not necessary in this case due to the size of this exit relative to the number of occupants and to the higher level of training and awareness of the occupants.

The intent of the requirement for handholds is to enable passengers to steady themselves when moving about the cabin, in the event of moderate turbulence. The supernumerary seating area must be considered in regard to this requirement, since persons may move about this area. The Class E cargo compartment must also be considered in regard to this requirement, unless supernumeraries are not allowed in it during flight. The FAA recognizes that it would be impractical to require handholds in the Class E cargo compartment. Additionally, the petitioner has noted that the supernumeraries would be instructed to be seated with the safety belt fastened as much as practical. The FAA finds that an acceptable level of safety for justifying an exemption will be provided without handholds, if a

flightcrew-operated aural or visual annunciation in the supernumerary seating area and the Class E compartment—if accessible by supernumeraries—indicates at the onset of turbulence that persons must return to their seats.

The FAA considers that the supernumeraries should have an oxygen system that is comparable to that of passengers. However, taking into account the extra knowledge and training that these persons will have, it is not necessary that an equivalent system be installed. The petitioner has proposed that supplemental oxygen be provided to each occupant in a portable oxygen bottle but has not indicated the location where the bottles would be mounted. It is acceptable that supplemental oxygen be provided in portable bottles. However, § 25.1447(c)(1) requires that the oxygen be "immediately available" to each seat occupant. Hence, the oxygen bottles must be mounted on or immediately next to the seats, and each occupant must be able to don a mask and activate oxygen flow while seated. The petitioner has further indicated that configurations may be approved that will allow the supernumeraries to leave their seats and enter the cargo compartment to handle animals which can not be left unattended. In order to provide an acceptable level of safety to the "immediately available" and "uniformly distributed" requirements of § 25.1447(c)(1), each occupant must carry on his/her person a portable oxygen bottle with a mask connected to it while in the Class E cargo compartment. This apparatus may be the same as that installed at the occupant's seat.

Section 25.1447(c)(1) also requires automatic presentation of the oxygen dispensing units. For seated passengers in typical passenger airplanes, the automatic presentation of masks throughout the cabin indicates the need to don an oxygen mask. Supernumeraries on the petitioner's 727 airplanes will not have this indication. In order for an acceptable level of safety to be provided, an automatically activated aural and visual decompression signal must be immediately recognizable throughout the supernumerary seating area and—if access is allowed—in the Class E cargo compartment. Operation of this signal must be automatic with flightcrew manual action as a backup.

Supernumeraries must be trained on the location and use of the oxygen equipment and the signals for its use. Additionally, the supplemental oxygen equipment must be sized adequately for continuous and uninterrupted use, in accordance with § 25.1441, during worst-case flight duration.

Section 25.1447(c)(1) requires that there be ten percent more oxygen masks than occupants and two masks in each lavatory. The FAA concurs that the rationale behind these requirements do not apply in this case, and therefore an exemption is warranted.

In conclusion, the FAA has determined that the existing regulations for type certification do not address occupants that are neither crew nor passengers, and a partial exemption from certain part 25 requirements is warranted to permit carriage of supernumerary individuals.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, APA is hereby granted a partial exemption from 14 CFR 25.785(j), 25.813(b), 25.857(e) and 25.1447(c)(1). The petition is granted to the extent required to permit type certification of Boeing Model 727-200 series airplanes, with provisions for the carriage of supernumeraries. The following limitations apply:

1. The limitations section of the airplane flight manual must contain a limitation that occupancy outside of the flightdeck is restricted to a maximum of two persons.

2. Occupants are limited to the categories specified in §§ 121.583(a)(1) through (7). Note that the petitioner has requested, by separate petition, relief from operational requirements to allow the flightdeck door to be open during taxi, takeoff and landing. If an exemption is granted, it may further limit the categories of occupants allowed on the airplane.

3. Each occupant must be briefed by a flightcrew member on the use of the exits and emergency equipment prior to each flight.

4. The operator must determine that each occupant is physically able to accomplish the necessary emergency procedures.

5. The fight deck door must be latched open during taxi, takeoff and landing when supernumeraries are on board the airplane. The latching means must be able to withstand the loads imposed upon it when the door is subjected to the ultimate inertia forces, relative to the surrounding structure, listed in § 25.561(b). Appropriate procedures/limitations must be established to ensure that taxi, takeoff and landing is prohibited when the flightdeck door is not latched open.

6. A supplemental oxygen bottle with a mask connected to it must be mounted on or immediately next to each supernumerary seat and be located so that each occupant can don the mask and activate oxygen flow while seated. The supernumeraries must be trained in the use of these oxygen units.

7. Each supernumerary must be provided with a portable oxygen source with the mask connected to it that must be carried whenever the supernumerary is not in the vicinity of his/her seat. The portable oxygen units may be located in a common area or may be the same units installed at the supernumerary seats. The supernumeraries must be trained in the use of these oxygen units.

8. An automatically activated aural and visual decompression signal immediately recognizable throughout the supernumerary seating area and any accessible area in the Class E cargo compartment must be provided to notify supernumeraries when to don oxygen masks. This signal is not required to be recognizable in the Class E compartment, if an Airplane Flight Manual limitation is established to not allow supernumeraries in the Class E compartment during flight. This signal and the accompanying procedures for donning a mask and activating oxygen flow must be included in the pre-flight briefing.

9. A flightcrew operated aural or visual annunciation which would be recognized in the supernumerary seating area and accessible areas in the Class E compartment must be installed to indicate during turbulence that persons must return to their seats. This annunciation is not required to be recognizable in the Class E compartment, if an Airplane Flight Manual limitation is established to not allow supernumeraries in the Class E compartment during flight. Appropriate procedures/limitations must be established to ensure that the flightcrew signals the supernumeraries to return to their seats at the onset of turbulence and for landing.

10. A flightcrew operated aural or visual annunciation which would be recognized in the Class E cargo compartment must be installed to indicate during a fire in the Class E compartment that persons must return to their seats and ensure that the smoke barrier is secured (i.e., the door or curtain is closed). Appropriate procedures/limitations must be established to ensure that the flightcrew signals the supernumeraries to return to their seats and secure the smoke barrier at the onset of a fire. The pre-flight briefing must explain this annunciation to the supernumeraries. This briefing, annunciation and the associated procedures/ limitations to signal the supernumeraries are not required, if an Airplane Flight Manual limitation is established to not allow supernumeraries in the Class E compartment during flight.

11. A placard must indicate that the smoke barrier must be secured (i.e., the door or curtain must be closed) when occupants are not in the Class E cargo compartment, and it must be located in a conspicuous place either on or next to the smoke barrier. The pre-flight briefing must inform supernumeraries of this requirement and whether or not they may enter the Class E cargo compartment.

Issued in Renton Washington, on January 29, 2003.

s/s
Ali Bahrami
ActingManager
Transport Airplane Directorate
Aircraft Certification Service